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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/760,386	01/21/2004	Tadafumi Yokota	Q79278	1322

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EXAMINER	
WITHERSPOON, SIKARL A	
ART UNIT	**PAPER NUMBER**
1621	

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No: 10/760,386	Applicant(s) YOKOTA ET AL.	
	Examiner Sikarl A. Witherspoon	Art Unit 1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

5:00

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 1, 2005 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Bost (US 3,963,571).

Bost discloses a process wherein a C_{18} 2-hydroxycycloalkanone (specifically 2-hydroxycyclooctadecanone is dehydrated to form cyclooctadecenone, which is subsequently reacted with hydrogen to form cyclooctadecanone. The reaction is conducted in the presence of zinc and hydrochloric acid (col. 2, lines 45-68 and col. 4, lines 50 to col. 5, line 3). The reference clearly anticipates the instant claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 2, although not anticipated, is rejected under 35 U.S.C. 103(a) as being unpatentable over Bost (US 3,963,571) and Nakajima et al (US 5,300,654) in combination.

The instant claim limits the acid catalyst used in the process of the present invention to a phosphoric acid catalyst or a solid acid catalyst.

Bost does not teach this limitation, as Bost only discloses the use of hydrochloric acid in his process. However, Nakajima et al., although by way of a different process, teaches that in addition to acids such as sulfuric acid and hydrochloric acid, acids such as phosphoric acid and oxalic acid can be used for dehydration (col. 5, lines 4-6).

The instant claim is therefore rendered obvious, as it would have been obvious to a person of ordinary skill in the art, at the time the present invention was made, to substitute another acid known to be useful as a dehydrating agent, such as phosphoric acid, for the hydrochloric acid used in the process taught by Bost, a person being motivated to make such a substitution by the reasonable expectation of successfully dehydrating a given compound using any acid known to have equivalence as a dehydrating agent.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bost and Nakajima et al as applied to claim 2 above, and further in view of Makita (JP 2002220361).

The instant claim limits the reduction catalyst employed in the process of the present invention to one selected from nickel, cobalt, copper, palladium, platinum, ruthenium, or rhodium. Bost does not teach these catalysts, as Bost only teaches a zinc catalyst; however, Makita teaches a similar process for preparing a ketone compound from an acyloin, wherein a palladium/carbon catalyst is employed.

It therefore would have been obvious to a person of ordinary skill in the art to substitute one catalyst, i.e., a palladium catalyst, for another catalyst that is art recognized as an equivalent reduction catalyst; one being motivated by the reasonable expectation of success of employing a reduction catalyst that is known to be equivalent to the zinc catalyst taught by Bost et al.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bost et al and Nakajima et al and further in view of Makita.

The instant claims are drawn to a method of producing a ketone by simultaneously dehydrating and reducing an acyloin in the coexistence of an acid catalyst and reduction catalyst in the presence of hydrogen, wherein the acid catalyst is phosphoric acids or solid acids, and the reduction catalyst employed in the process of the present invention is selected from nickel, cobalt, copper, palladium, platinum, ruthenium, or rhodium.

Bost teaches a process wherein a C_{18} 2-hydroxycycloalkanone (specifically 2-hydroxycyclooctadecanone is dehydrated to form cyclooctadecenone, which is subsequently reacted with hydrogen to form cyclooctadecanone. The reaction is conducted in the presence of zinc and hydrochloric acid (col. 2, lines 45-68 and col. 4, lines 50 to col. 5, line 3).

The differences between Bost et al and the present invention are that Bost et al do not teach phosphoric acids or solid acids as catalyst, and do not teach nickel, cobalt, copper, palladium, platinum, ruthenium, or rhodium as the reduction catalyst, as claimed herein.

However, Nakajima et al., although by way of a different process, teaches that in addition to acids such as sulfuric acid and hydrochloric acid, acids such as phosphoric acid and oxalic acid can be used for dehydration (col. 5, lines 4-6).

The instant claims are therefore rendered obvious, as it would have been obvious to a person of ordinary skill in the art, at the time the present invention was made, to substitute another acid known to be useful as a dehydrating agent, such as phosphoric acid, for the hydrochloric acid used in the process taught by Bost, a person being motivated to make such a substitution by the reasonable expectation of successfully dehydrating a given compound using any acid known to have equivalence as a dehydrating agent.

Bost does not teach the above mentioned reduction catalysts, as Bost only teaches a zinc catalyst; however, Makita teaches a similar process for preparing a ketone compound from an acyloin, wherein a palladium/carbon catalyst is employed.

It therefore would have been obvious to a person of ordinary skill in the art to substitute one catalyst, i.e., a palladium catalyst, for another catalyst that is art recognized as an equivalent reduction catalyst; one being motivated by the reasonable expectation of success of employing a reduction catalyst that is known to be equivalent to the zinc catalyst taught by Bost et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikarl A. Witherspoon whose telephone number is 571-272-0649. The examiner can normally be reached on M-F 8:30-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sikarl A. Witherspoon

SIKARL A. WITHERSPOON
PATENT EXAMINER

S.A.W.